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FAX TRANSMISSION

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TO:

MAIL STOP 16

DIRECTOR OF THE USPTO

U.S. PATENT AND TRADEMARK OFFICE

FROM:

KATHRYN LAPPEGARD

RE:

U.S. PATENT APPLICATION SERIAL NO. 10/606,877

ATTORNEY DOCKET NO. 1437

DATE:

01/22/07

FAX NUMBER:

(571) 273-6500

NUMBER OF PAGES FOLLOWING THIS SHEET:

20

COMMENTS:

TRANSMISSION INCLUDES THE FOLLOWING:

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Transmittal Form / 1 Page (1 copy)
Request for Refund / 2 Pages (1 copy)
Copy of Documents field January 19, 2007 / 16 Pages (1 copy)

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PTO/SE/97 (U9-04)
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on January 22, 2007.

Date

Kathryn K. Lappegard

Typed or printed name of person signing Certificate

46,857

(515) 253-5707

Registration Number if applicable

Telephone Number

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- 2) Request for Refund / 2 Pages (1 copy)
- 3) Copy of Documents filed January 19, 2007 / 16 Pages (1 copy)

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PTO/SB/21 (08-04)
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<u> </u>		Application Number		10/608,877		
TRANSMITTAL	-	Filing Date		06/25/2003		
FORM		First Named Invento	r	Fred R. Wolf		
·		Art Unit :		1615		
	. ut pr	Examiner Name		Ahmed, Has	an Syed	
to be used for all correspondence after. Total Number of Pages in This Submiss	ion 19	Attorney Docket Nu	nber	1437		
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Extension of Time Request	☐ Termina	l Disclaimer		Other En	closure(6) entity below);	
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Printed Name	Kathryn K. Li	appegard				
Date	January 22,		Reg. No.	46,857		
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This callection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) on application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 12 minutes to complete, including process) on application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 12 minutes to complete, including processing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS, SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application. No.

10/606,877

Confirmation No.: 5242

Applicant

Fred R. Wolf

Filed

06/25/2003

TC/A.U.

1615

Examiner

Ahmed, Hasan Syed

Docket No.

1437

Customer No.

27310

Title

Method of Improving Animal Tissue Quality by

Supplementing the Animal Diet with Mixed Tocotrienols

Mail Stop 16 Director of the USPTO P.O. Box 1450 Alexandria, VA 22313-1450

REQUEST FOR REFUND (IMPROPER CHARGE OF DEPOSIT ACCOUNT)

REFUND REQUEST ١.

This is a request for refund, with respect to the charge to Deposit Account 16-1852, for the above-Identified application.

FEES CHARGED FOR WHICH REFUND REQUESTED 11.

Extension of Time

Three Months

\$1,020

Serial No. 10/606,877 Request for Refund Dated January 22, 2007

III. EXPLANATION OF WHY CHARGE IS IN ERROR

On January 19, 2007, Applicant filed an Amendment in response to the Office of Action mailed October 23, 2006, or within the three month period set for reply. However, a Petition for Extension of Time (three months) was mistakenly filed. Copies of all documents filed on January 19, 2007, are attached for the convenience of the Office.

IV. MANNER OF REFUND

Please make the refund by crediting Deposit Account No. 16-1852.

Respectfully submitted,

Kathryn K. Lappegard Agent for Applicant(s) Registration No. 46,857

PIONEER HI-BRED INTERNATIONAL, INC. Corporate Intellectual Property 7250 N.W. 62nd Avenue P.O. Box 552 Johnston, Iowa 50131-0552 Phone: (515) 253-5707 Facsimile: (515) 334-6883

Page 1 of 2

Acknowledgement Receipt

The USPTO has received your submission at 09:45:01 Eastern Time on 19-JAN-2007 by Deposit Account: 161852.

\$ 1020 fee paid by e-Filer via RAM with Confirmation Number: 1248.

You have also pre-authorized the following payments from your USPTO Deposit Account:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 and 1.17

144991	Filed Application Information					
Method of improving animal tissue quality supplementing the aritissue quality supplemention and aritissue quality supplementions and aritissue quality supplementions and aritissue quality supplementions and ari	FS ID		1449991			
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Customer Number or Correspondence Address Filed By Kathryn K. Lappegard./Sheri Biller Attorney Docket Number 1437 Filing Date 25-JUN-2003 Receipt Date 19-JAN-2007 Application Type Utility Application Details Submitted Files Page Count Miscellaneous Incoming 115106 bytes 1437_TransmittalForm011907.pdf 1 Extension of Time 129777 bytes 1437_PetExtensionTime011907.pdf 10 Extension of Time 148211 bytes Document Description Page Start Page End Amendment - After Non-Final Rejection Claims 2 3 Applicant Arguments/Remarks Made In an Amendment - (200, 100, 100, 100, 100, 100, 100, 100,		·. ,	animal tissue quality \$99 supplementing the anies diet with mixed	OCK im 22		
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Kathryn K. Lappegard./Sheri Biller Attorney Docket Number 1437 Filing Date Receipt Date Application Type Application Details Submitted Files Page Count Miscellaneous Incoming Letter 1437_TransmittalForm011907.pdf 1 Miscellaneous Incoming bytes 1437_PetExtensionTime011907.pdf 1 Extension of Time 129777 bytes 1437_Amd011907.pdf 10 Document Description Amendment - After Non-Final Rejection Claims Applicant Arguments/Remarks Made In an Amendment PASS	Customer Number or Correspondence Address		27310		•	
Filing Date Receipt Date 19-JAN-2007 Application Type Utility Application Details Submitted Files 1437_TransmittalForm011907.pdf 1 Miscellaneous Incoming Letter 1437_PetExtensionTime011907.pdf 1 Extension of Time 148211 PASS 1437_Amd011907.pdf 10 Document Description Amendment - After Non-Final Rejection Claims Applicant Arguments/Remarks Made In an Amendment PASS PASS PASS PASS PASS PASS						
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Page 2 of 2

Patent Electronic Filing

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filling Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

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Electronic Ac	knowledgement Recelpt
EFS ID:	1449991
Application Number:	10606877
International Application Number:	
Confirmation Number:	5242
Title of invention:	Method of improving animal tissue quality by supplementing the animal diet with mixed tocotrienols
First Named Inventor/Applicant Name:	Fred R. Wolf
Customer Number:	27310
Filer:	Kathryn K. Lappegard/Sherl Biller
Filer Authorized By:	Kathryn K. Lappegard.
Attorney Docket Number:	1437
Receipt Date:	19-JAN-2007
Filing Date:	25-JUN-2003
Time Stamp:	09:45:01
Application Type:	Utility

Payment information:

yes
\$1020
1248
161852

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 and 1.17

File Listing:

Document	Document Description	File Name	Fire Size(Bytes)	Mutti Part /.zip	Pages (if appl.)		
Number 1	Miscellaneous Incoming Letter	1437_TransmittalForm01190	115106	no	1 .		
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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371 If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

Signature

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		Application Number		r use through 07/31/2006. DMB 0061-0031 mb. files; U.S. DEPARTMENT OF COMMERCE correction united & displays a valid OMB control number. 10/606.877
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under 37 CFR1.52 or 1.53		:		
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Firm		-Bred International, Inc.	· ·	
Signature	/Kathryn K.	. Lappegard/		
Printed Name	Kathryn K. I	Lappegard		
'Date	January 19.		Reg. No.	48,857
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Typed or printed name

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Trademark Office, U.S. Department of Commissioner for Patonts, P.O. Box 1459, Alexandria, VA 22313-1450.

Date

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PTO/SB/22 (12-04)

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Under the Paperwork Reduction Act of 1985, no persons are regulate	to respond to a pollocition of	information unloss it displays a valo	OLE CONSTRUCTION	
PETITION FOR EXTENSION OF TIME UNDER 37	CFR 1.136(a)	Docket Number (Optional)		
FY 2005		1437		
(Fees pursuant to the Consolidated Appropriations Act, 200	5 (H.R. 4818).)	Filed 06/25/2003		
Application Number 10/806,877			ocotrienals	
For Method of Improving Animal Tissue Quality by S	Supplementing the	Aumai Diet Mitti Mixed 1		
Art Unit 1615		Examiner Ahmed Ha	isan Syed	
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	<u>Fee</u>	Small Entity Fee \$60	s	
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Two months (37 CFR 1.17(a)(2))	\$450	\$225	3	
	\$1020	\$510	\$ <u>1020</u>	
Four months (37 CFR 1.17(a)(4))	\$1590	\$795	\$	
Five months (37 CFR 1.17(a)(5))	\$2160	\$1080	\$	
□ Applicant claims small entity status. See 37 CFR. □ A check in the amount of the fee is enclosed. □ Payment by credit card. Form PTO-2038 is attact. □ The Director has already been authorized to change. □ The Director is hereby authorized to charge any form Deposit Account Number 18-1852. I have enclose WARNING: Information on this form may become put this form. Provide credit card information and authority. 1 am the □ applicant/inventor.	ned. ge fees in this applieses which may be need a duplicate copyiblic. Credit card infortzation on PTO-203	equired, or credit any over of this sheet. ormation should not be in 8.	erpayment, to	
assignee of record of the entire Statement under 37 CFR 3.7	(3(b) is enclosed. (Form P10/58/90).		
	gistration Number 5	16.857		
attorney or agent under 37 CFF				
Registration number if acting under	37 CFR 1.34			
/Kathryn K. Lappegard/		January 19, 20	07	
Signature		Date	, .	
Kathryn K. Lappegard		515-253-5707		
	.	Telephone Number		
NOTE: Signatures of all the inventors or essignees of record of the of more than one signature is required, see below.	entire interest or their rop	resentative(s) are required. Sul	mit muche iorns i	
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.

10/606,877

Confirmation No.: 5242

Applicant

Fred R. Wolf

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06/25/2003

TC/A.U.

1615

Examiner

Ahmed, Hasan Syed

Docket No.

1437

Customer No.

27310

Title

Method of Improving Animal Tissue Quality by

Supplementing the Animal Diet with Mixed Tocotrienols

Mail Stop Amendment Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

.. AMENDMENT

In response to the Office Action of October 23, 2006, please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 4 of this paper.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

- (Original) A method of improving the tissue quality of an animal, comprising feeding the animal a diet comprising at least 150 ppm mixed tocotrienols.
- (Original) The method of claim 2 wherein the tissue is meat and the quality
 of the meat is measured by criteria selected from the group consisting of pH,
 improved color value, improved oxidative stability, and reduced purge.
- 3-11. (Cancelled)
- 12. (Original) The method of claim 1 wherein the animal is poultry.
- 13. (Original) The method of claim 12 wherein the animal is cattle.
- 14. (Original) The method of claim 1 wherein the diet comprising at least 150 ppm mixed tocotrienols comprises a cereal grain crop genetically modified to have elevated mixed tocotrienol levels.
- 15. (Original) The method of claim 14 wherein the cereal grin crop is corn.

16. (Original) The method of claim 1 wherein the diet comprising at least 150 ppm mixed tocotrienols comprises oil from a plant that has been genetically modified to have elevated mixed tocotrienol levels.

17-19. (Cancelled)

- 20. (Original) A method of improving the tissue quality of an animal, comprising feeding the animal a diet comprising 50 ppm to 500 ppm mixed tocotrienols.
- 21. (Original) The method of claim 20 wherein the tissue is meat and the quality of the meat is measured by criteria selected from the group consisting of increased pH, improved color value, improved oxidative stability and reduced purge.

22-26. (Cancelled)

- 27. (Original) The method of claim 20 wherein the diet comprising 50 ppm to 500 ppm mixed tocotrienols comprises a cereal gain crop genetically modified to have elevated mixed tocotrienol levels.
- 28. (Original)The method of claim 27 wherein the cereal grain crop is com.
- 29. (Original) The method of claim 20 wherein the diet comprising 50 ppm to 500 ppm mixed tocotrienols comprises an oil from a plant that has been genetically modified to have elevated mixed tocotrienol levels.

30-32. (Cancelled)

REMARKS/ARGUMENTS

Reconsideration of the present application is respectfully requested. With this amendment, claims 1, 2, 12, 13, 14-16, 20, 21, and 27-29 are pending.

Claims 3-11, 17-19, 22-26, and 30-32 are cancelled as drawn to non-elected inventions.

Claim Rejections - 35 USC §103

Claims 1, 2, 12, 13, 20, and 21 are rejected under 35 USC §103(a) as being unpatentable over Saunders, et. al. (US Patent No. 6,977, 269).

The Office Action states: "Saunders, et. al. disclose a method of improving the tissue quality of an animal - including the ruminant cattle of instant claims 12 and 13 ... by feeding the animal vitamin E.... While Saunders et. al. do not explicitly teach all the instant claimed concentration of tocotrienols, it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine suitable concentration through routine or manipulative experimentation to obtain the best possible results, as these are variable parameters attainable within the art.... Applicants have not demonstrated any unexpected or unusual results, which accrue from the instant concentration."

The Office Action concludes: "It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use tocotrienols as a method of improving cattle meat quality, as taught be Saunders, et. al. One of ordinary skill in the art at the time the invention was made would have been motivated to add tocotrienols to an animal feed for the beneficial effects of improved meat quality, as explained by Saunders, et. al."

The rejection is respectfully traversed.

As the instant specification, knowledge of one of skill in the art, and the cited reference make clear, the words "Vitamin E", "tocopherol", and "tocotrienol" are not analogous terms.

"Vitamin E" is an umbrella expression for "...a class of lipid-soluble anti-oxidants that includes α , β , γ , and δ -tocopherols and α , β , γ , and δ -tocotrienols.... Vitamin E is more appropriately defined chemically as alpha-tocopherol." (See Eenennaam et al., paragraph [0004]). Both the instant specification and the cited reference differentiate between the tocopherols and tocotrienols e.g.: "...vitamin E in the form of alpha-tocopherol acetate...." (See Saunders et. al., col.1, lines 41-41, and the instant specification paragraph [0008]).

Saunders et. al. teaches the danger in assuming the efficacy of any particular Vitamin E anti-oxidant compound without experimental validation. Saunders et. al. recites in col 3, lines 49-51 and lines 58-61: "Gamma-tocopherol (ν-tocopherol) has heretofore been believed to be a weaker anti-oxidant than alpha-tocopherol (α-tocopherol) on a per unit mass basis and thus, less effective as a dietary supplement for animals.... Applicants have found that, surprisingly, supplementation of animal diets with gamma-tocopherol results in statistically significant improvements in certain tissue quality parameters."

Tocotrienols are not even mentioned in Saunders et. al. and so could not have motivated one of skill in the art to add tocotrienols to an animal feed for the beneficial effects of improved meat quality as recited in the Office Action.

Accordingly, claims 1, 2, 12, 13, 14-16, 20, 21, and 27-29 are not obvious in view of the cited art.

Claims 1, 2, 12, 13, 14-16, 20, 21, and 27-29 are rejected under 35 USC 103(a) as being unpatentable over Saunders, et. al. in view of Eenennaam et. al.

The Office Action states: "Eenennaam, et. al. teach transgenic plants modified to express polypeptides of the tocopherol biosynthesis pathway.... The disclosure recited transgenic plants modified to have elevated mixed tocotrienol levels (see paragraphs 217-220). The plant may be the cereal grain crop corn of instant claims 14, 15, 27, and 28 (see paragraph 211)."

The Office Action continues: "The Eenennaam et. al. reference teaches an animal diet comprising mixed tocotrlenols comprising oil from a plant that has been genetically modified to have elevated mixed tocotrienol levels, as recited in instant claims 16 and 29.

The Office Action concludes: "It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use tocotrienols as a method of Improving cattle meat quality, as taught by Saunders, et. al. in view of Eenennaam, et. al. One of ordinary skill in the art at the time the invention was made would have been motivated to add tocotrienols to an animal feed for the beneficial effects of improved meat quality, as explained by Saunders, et. al."

The rejection is respectfully traversed.

The disclosure of Saunders et. al., as discussed above, does not teach the use of tocotrienols in feed to improve meat quality.

Eenennaam et. al. does not present reasoning, citations, or evidence that the transgenic plants disclosed therein contain elevated levels of tocotrienols. The claims and sections of the cited specification that disclose elevated levels of tocotrienols are a mere laundry list of desired phenotypes. Eenennaam et al discloses data showing elevated levels of tocopherols in the disclosed transgenic plants but no data regarding elevated levels of tocotrienols. It being a routine matter to also assay for elevated tocotrienols, it can be inferred that the transgenic plants of Eenennaam et. al. did not have elevated levels of tocotrienols.

Therefore, one of skill in the art could not use Saunders, et al or Eenennaam et al, alone or combined, with any reasonable expectation of success to produce the present invention. Accordingly, claims 1, 2, 12, 13, 14-16, 20, 21, and 27-29 are not obvious in view of the cited art.

In view of the above remarks, it is submitted that the rejections under 35 USC §103(a) should be withdrawn.

Double Patenting

Claims 1, 2, 12, 13, 14-16, 20, 21, and 27-29 are rejected on the ground of nonstatutory obviousness-type double patenting. The claims are rejected as unpatentable over claims 1-38 of US Patent No. 6,977,269 ('269).

The Office Action states: "Although the conflicting claims are not identical, they are not patentable distinct from each other because '269 claims a method of improving the tissue quality of an animal, including ruminant animals, using a tocopherol. See claims 1 and 8."

The rejection is respectfully traversed.

As the instant specification, knowledge of one of skill in the art, and the cited reference make clear, the words "Vitamin E", "tocopherol", and "tocotrienol" are not analogous terms.

The '269 patent teaches the use of a specific compound: gammatocopherol (y tocopherol) added to animal diets to improve meat quality. The '269 patent does not teach or suggest the use of tocotrienols in animal feed to improve meat quality. The '269 patent is patentably distinct from the instant application. Accordingly, claims 1, 2, 12, 13, 14-16, 20, 21, and 27-29 are not obvious in view of the cited art.

Claims 1, 2, 12, 13, 14-16, 20, 21, and 27-29 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting. The claims are provisionally rejected as unpatentable over claims 1-38 of copending Application No. 11/153,462 ('462).

The Office Action states: "Although the conflicting claims are not identical, they are not patentable distinct from each other because '462 claims a method of improving the tissue quality of an animal, including cattle, using a tocopherol. See claims 1 and 8."

The rejection is respectfully traversed

Application number 11/153,462 ('462) is a continuation of the '269 patent cited above. As there is no additional disclosure in this application from the parent, the same points regarding the '269 patent apply. Accordingly, claims 1, 2, 12, 13, 14-16, 20, 21, and 27-29 are not obvious in view of the cited art.

Claims 1, 2, 12, 13, 14-16, 20, 21, and 27-29 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting. The claims are provisionally rejected as unpatentable over claims 1-27 of copending Application No. 11/153,463 ('463).

The Office Action states: "Although the conflicting claims are not identical, they are not patentable distinct from each other because '463 claims a method of improving the tissue quality of an animal, including ruminant animals, using mixed tocotrienols. See claims 1, 12, and 19."

The rejection is respectfully traversed.

The '463 application does not disclose or claim an animal diet using mixed tocotrienols alone. The '463 application discloses and claims an animal diet with a mix of oleic acid and selected tocols ("selected tocols" being defined as: "...one or more of the tocotrienols (TT), gamma-tocopherol (GT), or a mixture of at least one tocotrienol and gamma-tocopherol. The selected tocols may contain other components, including other tocopherols." See page 3, lines 5-8) As such, the '463 application is patentably distinct from the instant application.

Accordingly, claims 1, 2, 12, 13, 14-16, 20, 21, and 27-29 are not obvious in view of the cited art.

Claims 1, 2, 12, 13, 14-16, 20, 21, and 27-29 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting. The claims are provisionally rejected as unpatentable over claims 1-20 of copending Application No. 11/530,075 ('075).

The Office Action states: "Although the conflicting claims are not identical, they are not patentable distinct from each other because '075 claims a method of improving the tissue quality of an animal, including ruminant animals, using mixed tocotrienols. See claims 1, 10, and 13."

The rejection is respectfully traversed.

The '075 application does not disclose or claim an animal diet using mixed tocotrienols alone. The '075 application teaches: "...use of a high-oleic and hightocol animal diet in combination with an additional non-tocol antioxidant such as rosemary extract to achieve a greater improvement in meat oxidative stability than can be achieved with dietary high-oleic and high-tocol or the additional nontocol antioxidant alone." (see page 1, lines 15-20). As such, the '075 application is patentably distinct from the instant application.

Accordingly, claims 1, 2, 12, 13, 14-16, 20, 21, and 27-29 are not obvious in view of the cited art.

In view of the above remarks, it is submitted that the rejections under nonstatutory obviousness-type double patenting should be withdrawn.

CONCLUSION

In view of the above amendments and remarks, it is submitted that the rejections of the claims under USC 103(a) and nonstatutory obviousness-type double patenting are overcome. It is respectfully submitted that this application is now in condition for allowance.

If in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned.

Respectfully submitted,

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Application Number:	10	606877					
Filing Date:	25	-Jun-2003					
Title of Invention:	Method of improving animal tissue quality by supplementing diet with mixed tocotrienols						
First Named Inventor/Applicant Name:	Fred R. Wolf						
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Petition:			10606877				
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Extension-of-Time:			0.00 CR				
Extension - 3 months with \$0 paid		1253	103/0 103/0	1020	1020		

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Description	Fee Code	Quantity	Amount	Sub-Total i USD(\$)
Miscellaneous:				
	Tota	al in USD	(\$)	1020

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